evanescent in the outer teeth. The radula is 0·55 mill. long, 0·14 wide, and so one tooth measures about 0·0045×0·0035 mill.

This is so radical a difference from the Pupidæ that our species can no longer be placed under that family. It comes nearest *Punctum pygmæum* Drap.,[1] the radula being of the same type, and also the jaw is of the same formation, being quite low and composed of distinct plates.

As to the generic name, Sphyradium Charp. 1837(=Columella West., Edentulina Cless., both 1876, teste Westerlund) must be used.

An interesting analogue is "Pupa" neozelanica Pfr., with much the same form of shell, which Mr. H. Suter, a few years ago, has shown to be no Pupa, but a Charopa.

It may be added that the American form is absolutely identical with the palæarctic, even showing the same wide range of variation. There is no need, then, to name it Sph. "edentulum simplex." Just so, to mention it by the way, *Punctum pygmæum* Drap. is identical on both continents, and so it is equally useless to name it *P. pygmæum minutissimum*.

LIST, WITH NOTES, OF LAND AND FRESH WATER SHELLS COLLECTED BY DR. WM. H. RUSH IN URUGUAY AND ARGENTINA.

BY HENRY A. PILSBRY AND WILLIAM H. RUSH.

In presenting this list of land and fresh water shells from Uruguay and Argentina, perhaps it will be well to state precisely the localities at which collections were made, especially so from the Uruguay River, which region seems to have been omitted from the report of D'Orbigny. The U. S. S. Yantic, to which the writer was attached, arrived at Montevideo, Uruguay, in January, 1892. The public park, El Prado, of the city proved to be the richest region near by; the suburbs of the town were rich in *Helix lactea*, as, indeed, were many places in Uruguay and Argentina; several large tracts are preserved for the cultivation of them for the supply of the Italian markets. The Cerro, which is quite a prominent hill on a

[1] In the radula of one specimen of *P. pygmæum* r+17 teeth were counted in a transverse row, r+16 in another, and 80 (78) rows were found. The laterals, except the last one or few, were bicuspid. (Conf. E. S. Morse, Pulmonifera of Maine, p. 27, pl. 8, fig. 71.),

small peninsula opposite the main city, and from which Montevideo, "The mount, I see," derives its name, contained nothing special, but the plain back of it yielded several land species, and the small runs and creeks many fresh water forms, in some of which, when dry, the whole bottom was found to be covered with dead *Planorbis*. Maldonado Bay is about 20 miles nearer the sea, in Uruguay, and was the only place in which the dredge was used with good results as showing the extreme southern limit of several West Indian species. Gorriti Island, in that bay, was a treasure for *H. lactea*, and was abundantly supplied with *Strophochilus lutescens* King and *Bulimulus gorritiensis* Pils. Near the small town of Maldonado, was found *Amphidoxa costellata* D'Orb. in a small grove of native trees, about the only one met with. Most of the trees of any size in the immediate neighborhood of Montevideo and Buenos Ayres, are the introduced eucalyptus. Upon the visit to Buenos Ayres, Ensenada, etc., the only thing noticeable was the extreme abundance of *Ampullaria canaliculata* Lam. and its varieties, in all stages of growth from the egg upward. The Rio Parana, upon which the ship went as far as Rosario in Santa Fé province, did not yield much, principally for the reason that the ship was there during a revolution, when excursions always have an element of danger, as all the hoodlums of the town are turned loose with Winfield rifles. It was only when the ship went up the Uruguay River as far as Paysandu that things began to be interesting, but the time was too limited, This region proved to be extremely rich in undescribed *Potamolithus*. The collecting was easy, as all that was required was to pick up any stone at extreme low water and scrape the specimens off with the right fore-finger into the collecting basket. The first visit to the water's edge at Paysandu, resulted in finding *P. Rushii* Pils., which was found to be unfigured in D'Orbigny, and so few in number that one or two trips more were taken especially to find them, but only with limited results, so it can be considered scarce. Nearly all the other forms were abundant. The means of living there are so easy that it was found a hard matter even to hire the amphibian small boy to collect *Unionidæ*. A trip, by a well-organized party, up the river to its source, would yield valuable results. Only three specimens of *Vaginulus* were found, and these among the ruins of an old hide building in Maldonado. The plain back of Buenos Ayres did not yield such an abundant supply as one would expect from D'Orbigny's remarks, but possibly that was owing to the extreme dryness of the season while we were there.

HELICIDÆ.

Helix aspersa Müll. British cemetery at Buenos Ayres, Argentine Republic.

Helix lactea Müll. Gorriti Island, Maldonado Bay. Cultivated for food. This species was already abundant in Uruguay when d'Orbigny was there in 1826, and the date of its introduction could not then be ascertained.

Strophocheilus oblongus Brug. var. Fray Bentos. The apex is blunter than in typical *oblongus*, more as in *S. capillaceus* Pfr.

Strophocheilus lutescens King. Gorriti Island, Maldonado Bay. Originally described from Maldonado. The eggs vary in size, especially in length, measuring from 6·5 x 9·2 to 6·2 x 7·6 mm.

BULIMULIDÆ.

Bulimulus gorritiensis Pils., n. sp.[1] Gorriti Island, Maldonado Bay, under stones.

Bulimulus Rushii Pils., n. sp. Montevideo, plain back of Cerro, on thistles.

PUPIDÆ.

Odontostomus dentatus Wood. Montevideo, Uruguay, on thistles and close to ground, on plain back of the Cerro.

ENDODONTIDÆ.

Amphidoxa (*Stephanoda*) *costellata* d'Orb. A small grove of native trees near Maldonado, Uruguay. Abundant.

SUCCINEIDÆ.

Omalonyx unguis d'Orb. Locality not noted.

Omalonyx convexa Mart. Creek in Prado, Montevideo.

VAGINULIDÆ.

Vaginulus solea d'Orb. Near Maldonado, Uruguay.

PHYSIDÆ.

Physa Sowerbyana d'Orb. Creek in Prado, Montevideo.

CHILINIDÆ.

Chilina fluminea Maton. San Gabriel's Island, in the Rio de la Plata, opposite Colonia, Uruguay.

Chilina Rushii Pilsbry, n. sp. Uruguay River, at Fray Bentos, Uruguay. Distinguished by its angular shoulder.

[1] See Man. Conch. (2), XI for description and figure of this and the next species. The other new forms will be described in Proc. Acad. Nat. Sci. Phila. and the next number of NAUTILUS, space being lacking in this number.

LIMNÆIDÆ.

Limnæa viator d'Orb. Montevideo: creek in the Prado.

Planorbis heloicus d'Orb. Montevideo, back of Cerro. The typical and a large less shining form, diam. 10 mm.

Planorbis peregrinus d'Orb. Montevideo, back of Cerro.

Planorbis paropseides d'Orb. (?). Creek in Prado, Montevideo. Agrees well with d'Orbigny's description and figures, but on account of the locality *may* be a different species.

Planorbis castaneonitens Pils. & Van., n. sp. Near Maldonado.

ANCYLIDÆ.

Ancylus obliquus Brod. & Sowb. San Gabriel's Island, on stones in Rio de la Plata.

The specimens vary considerable in degree of curvature of the apex, but are apparently all referable to this species, which was originally described from Chili.

AMPULLARIIDÆ.

Ampullaria neritoides d'Orb. La Plata River, San Gabriel's Island, Uruguay; Uruguay River at Paysandu. Specimens with the interior pure white as well as the usual purple form.

Ampullaria canaliculata Lam. Rio de la Plata at Buenos Ayres, Palenno and Ensenada; Parana near Rosario and at Paraiso. The specimens vary from true *canaliculata* to the varieties *insularum* and *australis*.

Ampullaria sp. A small form, not determined, occurred in the creek in the Prado, Montevideo.

Ampullaria Roissyi d'Orb. Parana River near Rosario, Santa Fé province, Argentina.

Ampullaria Spixii d'Orb. Parana River near Dos Hermanos ("Two brothers") Island.

AMNICOLIDÆ.

Littoridina australis d'Orb. Creek in the Prado, and in a small spring back of the Cerro, Montevideo. We follow the usual identification in this case, although not at all sure of its correctness. The larger specimens measure as much as 8½ mm. alt.

Littoridina charruana d'Orb. (?). San Gabriel's Island.

Littoridina Isabellei d'Orb. (?). San Gabriel's Island, with the preceding.

Potamolithus Rushii Pilsbry, n. sp. Uruguay River at Paysandu, Uruguay.

Potamolithus Iheringi Pilsbry, n. sp. Uruguay River at Paysandu, Uruguay.

Potamolithus microthauma Pilsbry, n. sp. Uruguay River at Paysandu, Uruguay.

Potamolithus Hidalgoi Pilsbry, n. sp. Uruguay River at Paysandu, Uruguay.

Potomolithus dinochilus Pilsbry, n. sp. Uruguay River at Paysandu, Uruguay.

Potamolithus Buschii 'Dkr.' Ffld. Uruguay River at Paysandu, Uruguay; Rio de la Plata at San Gabriel's Island.

Potamolithus tricostatus Brot. Uruguay River at Paysandu, Uruguay.

Potamolithus conicus Brot. Uruguay River at Paysandu, Uruguay.

Potamolithus Orbignyi Pilsbry, n. sp. Uruguay River at Paysandu, Uruguay.

Potamolithus lapidum d'Orb. Fray Bentos.

Potamolithus lapidum v. *supersulcatus* Pilsbry. Rio de la Plata at San Gabriel's Island.

Potamolithus Sykesii Pilsbry, n. sp. Uruguay River at Paysandu, Uruguay.

Potamolithus bisinuatus Pilsbry, n. sp. Uruguay River at Paysandu, Uruguay.

Potamolithus bisinuatus v. *obsoletus* Pils.

Potamolithus gracilis Pilsbry, n. sp. Uruguay River at Paysandu, Uruguay.

Potamolithus gracilis v. *viridis* Pils. Uruguay River at Fray Bentos.

CYRENIDÆ.

Corbicula limosa Maton. San Gabriel's Island.

Corbicula coloniensis Pilsbry, n. sp. Rio de la Plata above Colonia, Uruguay. A larger, more trigonal form than the preceding species.

Sphærium sp. undet. Creek in the Prado, Montevideo.

Pisidium sp. undet. " " " "

Pisidium sp. undet. " " " "

UNIONIDÆ.

Unio parallelopipedon Lea. Rio de la Plata at Colonia, Uruguay.

Unio charruana d'Orb. Lake Potrero, near Maldonado, Uruguay.

Unio variabilis Maton. Uruguay River at Fray Bentos.

Unio peræformis Lea. Rio de la Plata at Colonia. The rugæ on the posterior slope mentioned by Lea as perhaps inconstant, are present in the specimens collected.

MUTELIDÆ.

Monocondylæa Pazii Lea. Colonia, Uruguay.

Monocondylæa lentiformis Lea. Colonia, Uruguay.

Glabaris siriones d'Orb. Rio San Carlos, Uruguay.

Glabaris latomarginatus Lea var. *felix* Pils. Colonia, Uruguay.

Glabaris rubicunda Lea. La Plata River at Colonia, Uruguay; Uruguay River, Paysandu.

Glabaris lucidus d'Orb. La Plata River at Colonia, Uruguay.

Glabaris trapesialis var. *cygneiformis* Pils. Pond and a small creek near Maldonado.

Glabaris trapesialis var. *exoticus* Lam.

Anodonta exotica Lam. An. s. Vert., vi, 1819, p. 87; Delessert, Rec. de Coq., pl. 13, f. 1 (figure of type).

Anodon scriptus "Fer." Sowb., Conch. Icon., pl. 4, f. 9 (1867).

It is narrower than *G. trapesialis*, long, the anterior end very narrow, angled at end of hinge-line; posterior muscle-scar quite near the sinus at edge of hinge ligament, connected therewith by a short impression.

Rio San Carlos, Uruguay. Rather small specimens, but agreeing with the figure of type in Delessert's Recueil.

Glabaris Forbesianus Lea. Rio de la Plata, Colonia, Uruguay. Lea's figure was from a deformed shell, and the specimens would hardly have been recognized as *Forbesianus* had it not been for the kindness of Mr. Simpson, who compared with the types.

ISAAC LEA DEPARTMENT.

[Conducted in the interest of the Isaac Lea Conchological Chapter of the Agassiz Association by its General Secretary, Mrs. M. Burton Williamson.]

Members of our Chapter will please bear in mind the fact that the annual reports are due in December. We anticipate some fine papers this year as our members have been enthusiastic in their study of shells.